REMARKS

The application has been reviewed in light of the Office Action dated July 9, 2007. Claims 1-10 are pending. By this Amendment, claims 1 and 6 have been amended to place the claims in better form for examination and to clarify the claimed subject matter. Accordingly, claims 1-10 are presented for reconsideration.

Claims 1 and 6 were rejected under 35 U.S.C. § 102(b) as purportedly anticipated by U.S. Patent No. 6,481,826 to Hara et al. Claims 2-5 and 8-10 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Hara. Claim 7 was rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Hara in view of U.S. Patent No. 6,695,443 to Arita et al.

This application relates to a maintenance/recovery device for a liquid discharge device for discharging a droplet of a recording liquid. The maintenance/recovery device maintains and recovers performance of the recording head.

Applicant devised an improved maintenance/recovery device comprising a cap member covering a surface of a nozzle of the liquid discharging head, a resilient contact member provided in the cap member to come in contact with the surface of the nozzle, and a recess-forming member providing in the cap member to form a recess for receiving the recording liquid attracted from the nozzle, wherein the contact member and the recess-forming member are integrally formed by molding, the recess-forming member is made of a water-repellant resin material containing a water repellent agent, and the recess-forming member is provided to have at least two slopes being inclined toward an outlet at a bottom of the recess. Each of independent claims 1 and 6 addresses these features, as well as additional features. Little or no recording liquid remain within the cap member in the maintenance/recovery device having such constitution, even when a recording liquid with a high viscosity of 5 cp or more and with a

surface tension of 40 mN/m or less at 25 degrees C is used. The subject matter of the present application enables one to obtain a clear image with high concentration and few blots on plain paper.

Applicant found through substantial investigations that it is advantageous to form the recess-forming member with a water-repellant resin material (such as polypropylene) containing a water repellent agent. For example, experimental data indicated that a maintenance/recovery device wherein the recess-forming member is made of polypropylene containing a fluorine-based water repellent agent yielded superior results as compared to a maintenance/recovery device wherein the recess-forming member is made of polypropylene not containing a water repellent agent (see specification, page 32, lines 3-20, Tables 1 through 6 and corresponding discussion in the specification). More specifically, applicant found that there were almost no instances of non-discharging nozzle (and in the few instance of non-discharging nozzle, the device recovered) in the maintenance/recovery device wherein the recess-forming member is made of polypropylene containing a fluorine-based water repellent agent. Conversely, in the maintenance/recovery device wherein the recess-forming member is made of polypropylene not containing a water repellent agent, non-discharge nozzle and unrecovered non-discharge nozzle were relatively more common.

The cited art fails to recognize the advantages that can be obtained when the recess-forming member in the maintenance/recovery device is made of a water-repellant resin material containing a water repellent agent.

Hara, as understood by Applicant, proposes an ink jet recording apparatus comprising a recording head for jetting ink drops from nozzle orifices, and a capping unit including an opening for sealing a nozzle formation face (bearing the nozzle orifices) of the ink jet recording

head and sucking ink from the nozzle orifices into the internal space by negative pressure generated by a negative pressure generator. The capping unit proposed by Hara is formed with a holder, like a rectangular parallelepiped with rectangular opening, and a pair of slopes inclined from the opening to the bottom along the long side direction of the rectangle.

Hara proposes that the holder can be made of polypropylene and in order to minimize sticking of ink to the slopes of the capping unit, water-repellent treatment can be applied to form a water repellent layer on a surface of the slopes.

However, Hara does not teach or suggest that the recess-forming member is made of a water-repellant resin material containing a water repellent agent, as provided by the subject matter of claim 1 of the present application.

While Hara proposes that the holder can be made of polypropylene, Hara fails to recognize that non-discharge nozzle can still be experienced when the recess-forming member in such a capping unit is made of a water-repellant resin material not containing a water repellent agent. The solution Hara proposes to the ink sticking problem is to apply post treatment to the holder to form a water repellent layer on a surface of the slopes.

Arita, as understood by Applicant, proposes an ink of a specified constitution for use in ink jet recording.

Applicant does not find teaching or suggestion in the cited art, however, of a maintenance/recovery device comprising a resilient contact member provided in a cap member to come in contact with the surface of the nozzle, and a recess-forming member providing in the cap member to form a recess for receiving the recording liquid attracted from the nozzle, wherein the contact member and the recess-forming member are integrally formed by molding, the recess-forming member is made of a water-repellant resin material containing a water

repellent agent, and the recess-forming member is provided to have at least two slopes being inclined toward an outlet at a bottom of the recess, as provided by the subject matter of claim 1 of the present application. Independent claim 6 is patentably distinct from the cited art for at least similar reasons.

Accordingly, for at least the above-stated reasons, Applicant respectfully submits that independent claims 1 and 6 and the claims depending therefrom are patentable over the cited art.

Claims 1, 4-8 and 10 were rejected under the judicially created doctrine of obviousness-type double patenting as purportedly unpatentable over claims 1, 2, 4-8, 10 and 11 of co-pending U.S. Application No. 10/555,456.

A Terminal Disclaimer is submitted herewith, thus obviating the double patenting rejection. The Patent Office is hereby authorized to charge the $130.00 statutory disclaimer fee to our Deposit Account No. 03-3125.

In view of the remarks hereinabove, Applicant submits that the application is now in condition for allowance, and earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any other required fees, and to credit any overpayment, to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,

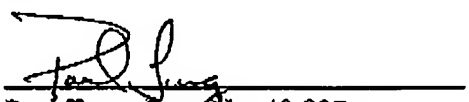

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EXHIBIT A

to
AMENDMENT
(Serial No. 10/566,864)